

## Notes on EPA's comments on the 2<sup>nd</sup> draft AKART Study

### Section 6 AKART Focus Area

Page 23. PSNS does not include chlorine as a pollutant of concern. PSNS adds chlorine to the ship cooling water system. The working draft permit includes chlorine limits. If a mixing zone for chlorine is needed, then chlorine should be included in the AKART study.

Page 25. Table 6-4. The AKART addresses metal cutting only outside of the dry docks. However metal cutting does occur within the dry docks. Any dry dock floor drainage collected during metal cutting operations should be collected and sent to treatment. *Table 6-4 Metal Cutting/Recycle(SW2-NE of DD3, NE of DD6-RMTS. Page 31, sec 7.7, last few sentences: adjacent outdoor cutting pad-is used to cut extra-large components. DD3-outdoor cutting pad: SW collects on the pad is removed and sent to treatment via portable vacuum and taken to OWTS (Table 13-2, pg 82---PSNS identifies shop vac is not adequate AKART-proposed covering the area during the 1<sup>st</sup> quarter of 2009 (page 85, Sec 13.2.2). DD3 Metal Sorting Are (SW2)-identified that current BMPs are below AKART-proposed to install OWS and route the discharge to sanitary sewer or via DD3 PWCS. However, no schedule has been proposed for this.*

*Pg 85, Table 13-2-Non-DD Outdoor Metal Work (SW7)-Sec 15 (page 109): BMP 10 and 11 contains brief discussion.*

The areas above are outside of the dry docks and PWCS. My point is that if they are doing metal cutting in the dry docks, the dry dock floor drainage should be collected and sent to the sewer or treatment. I'm not sure they do.

The AKART analysis for the piers is somewhat limited. Page 95 states that heavy industrial practices do not occur on the piers. Are metal cutting and painting operations prohibited on the piers? Given that there are 1,043 track drains on the piers that drain directly to Sinclair Inlet (page 83), BMPs on the piers should be particularly rigorous. *Nine piers- pg 46 states some BMPs on affected piers include drip pans use on piers (pg 47), routine maintenance and cleanup on piers (pg49), no abrasive blasting or spray painting of vessels while docking pier-side.*

They don't allow abrasive blasting or spray painting of vessels while docking pier-side – but I didn't see anything in the AKART about not allowing these practices on the piers.

### Section 11 Dry Dock Stormwater AKART Analysis

### Dry Dock Floor Drainage

One of the main pollutant sources that the draft permit addresses is the dry dock floor drainage. The dry dock floor drainage consists of waters that contact the dry dock floor, then flow to the dry dock drainage system. The working draft permit prohibits the direct discharge of water that contacts the dry dock floor.

Additional analysis should be provided in the AKART study for the dry dock floor drainage. Any water that contacts the dry dock floor has the potential to wash contaminants to Sinclair Inlet. Of the three wastestreams that comprise the dry dock discharge, the dry dock floor drainage has the highest concentration of contaminants. Water at the NPDES sample location is diluted by the other two wastestreams, the ship cooling water and hydrostatic relief water.

Page 59 in Section 11 states that the only water discharged in Sinclair Inlet through the dry dock outfalls is single-pass non-contact cooling, potable, hydrostatic relief groundwater, and some rain water. The waters that contact the dry dock floor are not potable – potable water is water that is suitable for drinking. Once the potable water contacts the dry dock floor, it is no longer potable.

The AKART study should address these individual “potable” wastestreams focusing on preventing these wastestreams from contacting the dry dock floor, by redirecting the waste streams to discharge directly to the dry dock drainage system. If the water does contact the dry dock floor, the water should be discharged to the sanitary sewer or sent for treatment. These are small volumes of water, but would contain the highest concentration of contaminants.

### PWCS

The current practice used with the PWCS is to divert wastestreams to the sanitary sewer based on the turbidity of the wastestream. The ability to control the copper using the turbidity is based on a correlation of copper and turbidity, as illustrated on Figure 6, page 62. EPA has two concerns with this current practice.

EPA questions whether the copper and turbidity correlation is applicable at the low copper concentrations regulated under the NPDES permit. The scale on Figure 6 is 0 to 2,000 ppb. The NPDES permit is concerned with low levels of copper, the benchmark level for stormwater is 20 ppb for copper. Although difficult to discern from the scale of the figure, it appears there is little correlation between turbidity and copper in this lower range. *PSNS needs to redo*

*the figure focus on smaller range of the scale--probably has correlation between the two.*

It's EPA's understanding that the PSNS generally use a trigger concentration of 25 NTU, to divert the wastestream to the sanitary sewer. On page 61, it states that the median copper concentration below 5 NTU is 31 ppb, with 95% of the water samples being below 90 ppb. Therefore, using 25 NTU as the trigger to direct wastestreams to the sanitary sewer would allow highly concentrated copper wastestreams to discharge to Sinclair Inlet, at much greater concentrations than the benchmark level of 20 ppb. Based on the line drawn on Figure 6 representing the correlation between copper and turbidity, it would appear that any wastestream with a turbidity greater than 1 NTU would be greater than 20 ppb of copper. *The state shares the same concern about this. However, setting the trigger limit to 1 NTU (20 ppb copper) may result in more flow going into the sewer system, exceeding the flow allocation limit of 400,000 gpd (new limit).*

**What about sending for treatment?**

Page 65 - EPA is supportive of upgrading the PWCS to send process wastestreams for treatment. Treatment would allow the removal of copper.

#### Ship Cooling Water

One of EPA's concerns with ship cooling water is having the cooling water wash contaminants from the dry dock floor to Sinclair Inlet. For this reason, the working draft permit prohibits the direct discharge of ship cooling water that contacts the dry dock floor. The intent of this provision is to prevent contact of the cooling water with spent abrasives, paint chips, and other debris. The AKART states that for a vessel, it takes one week to route the cooling water to the dry dock drainage. For aircraft carriers, two weeks are needed due to the additional time it takes to route the numerous sources of cooling water. *Pg 31 states "When a vessel is in dry dock, non-contact cooling water is temporarily piped to the dry dock drainage system to prevent contact with debris that may be on the dry dock floor." Pg 71, copper conc.in combined outfall is 12 ug/L in average and 33 ug/L maximum. Pg 72 states "Once the cooling water exits the vessels in dry dock it is routed via temporary hoses to the dry dock drainage system to prevent contact with debris on the dry dock floor. PSNS&IMF Instruction P5090.30 requires the cooling water to be routed to the dry dock drainage system within one week of docking a vessel. For aircraft carriers, two weeks are needed due to the additional time it takes to route the numerous sources of cooling water. Once routed to the drainage system, the cooling water commingles with dry dock*

*hydrostatic relief groundwater prior to discharge to Sinclair Inlet via one of the dry dock outfalls.”*

Does Ecology disagree with this comment?

*Pg 72 states “ All shipyards discharge cooling water without treatment. Large shipyards, particularly those servicing nuclear powered ships, discharge significantly higher volumes of cooling water due to the number and type of vessels.” True??? Do shipyards discharge cooling water? Why? Or just the nuclear powered naval vessels? See examples in that section.*

(page 72). EPA understands that time is needed to route the cooling water, however the cooling must be routed to the dry dock drainage, prior to the start of industrial operations in the dry docks.

Washwater – The AKART study doesn’t appear to adequately address washwater. *Hull wash water to remove salt deposits is discharged to the dd floors–pg 67. Vehicle wash water is briefly mentioned on pg 84 under Washing & Cleaning (SW5), and again on page 135 under BMP6 Vehicle/Equipment cleaning---discharge to sanitary sewer.* The working draft permit prohibits the direct discharge of washwater to Sinclair Inlet, because of the potential for washwater to come into contact with pollutants and wash the pollutants to Sinclair Inlet. In their comments on the working draft permit, PSNS described the need to discharge washwater to the bay following the flooding of the dry dock. However, with the exception of washing bay silt back to Sinclair Inlet following the flooding of a dry dock, all washwater in the dry dock must be directed to the sanitary sewer or treatment. Washwater in industrial areas outside of the dry docks must be directed to the sanitary sewer or treatment.

Electro-Coagulation – Why didn’t PSNS analyze the use of electro-coagulation for stormwater treatment? *The volume associated with stormwater is huge and it may not be economically feasible. I’ve mentioned this in the letter (comment #9)*

Not for all stormwater – just high risk areas (referred to on page 158) and dry docks.

Page 158 - Please identify the high risk work areas. How do they compare to the stormwater zones identified in Section 14? ?? *Page 107, BMP 13 mentions BMP for conducting outdoor work.*

*Suggest to include BMPs for the following areas in the permit:  
Pg 104, BMPs—In water vessel maintenance, surface preparation BMPs*

*Pg 104, Floats used for in water vessel maintenance, specific BMPs pertaining to this.*

*Pg 105, vacuum sander requirement to be placed in permit.*

*Pg 105, DD cleaning, PSNS should propose a cleaning and maintenance schedule for catch basins in dd.*